

What is claimed is:

1. A welding shield gas for non-consumable electrode arc welding of a welding material comprising austenitic stainless steel having a Ca concentration not less than 5 1 wt.ppm, the welding shield gas comprising:

an inert gas and nitrogen gas, the concentration of the nitrogen gas being 1 to 95 vol%.

2. A welding shield gas for non-consumable electrode arc welding of a welding material comprising austenitic stainless steel having a Ca concentration not less than 10 1 wt.ppm, the welding shield gas comprising:

an inert gas and helium gas, the concentration of the helium gas being 35 to 95 vol%.

15 3. A welding shield gas for non-consumable electrode arc welding of a welding material comprising austenitic stainless steel having a Ca concentration not less than 1 wt.ppm, the welding shield gas comprising:

an inert gas, nitrogen gas, and helium gas, the concentration of the nitrogen gas being not less than 1 vol% and less than 65 vol%, and the concentration of the 20 helium gas being 35 to 95 vol%.

4. A welding shield gas according to any of claims 1 to 3, the welded material comprising:

at least one of Al at a concentration not less than 10 wt.ppm, and Si at a 25 concentration not less than 0.3 wt.ppm.

5. A welding shield gas according to any of claims 1 to 3, wherein the inert gas is argon gas.
- 5 6. A welding method for non-consumable electrode arc welding of welded material comprising austenitic stainless steel, the welding method comprising:
 - a step of using the welding shield gas according to any of claims 1 to 3.
7. A welding method according to claim 6, wherein the welding method is applied to fixed tube welding.
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